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Announcements

NASA’s 2021 Virtual Earth Day Event, April 21-24, will feature live presentations, science resources, a kid zone, chats with experts, and more. Check here for the Earth Day organization site.

"Public Engagement on Gene Editing in Livestock Webinar"—click here for information about a UC-Davis Virtual Picnic Day Event April 17 at 11:00 a.m. PDT.

The government’s Agricultural Research Service announced its awards for scientific achievements.

This publication looks at ways to broaden the impact of plant science through innovative, integrative, and inclusive outreach.

The Society for In Vitro Biology announced its webinar about plant genes important for T-DNA trafficking and integration in plant cells.

CAST College Corner

April 16, 2021

Gene Editing Gaining Acceptance

With plenty of cheers—and a certain amount of fears—many call gene editing the most important scientific discovery of the 21st century. The film "Human Nature" added to CRISPR's recognition, and—as this article from the Cornell Alliance for Science points out—there are four reasons why genome editing might be finding public acceptance, and a report from the United States National Intelligence Council focuses on the potential of biotechnology in the global economy.

As links in nearly every Friday Notes edition demonstrate, gene editing is not just a future technique for agriculture, it is very much in the present. This week's newsletter includes gene editing links in the Announcements (UC-Davis event about gene editing in livestock), in the Plant Section (heat-sensing gene in plants, stronger cornstalks, and biodegradable plastics), and in the International Section (gene editing tea plants).

News and Views

WASDE Report: This site provides the latest World Agricultural Supply and Demand Estimates.

Food Program Change: Secretary Vilsack announced the end of the Farmers to Families Food Box Program, and indications are that a replacement program will be announced soon.

Rebuilding Rural Infrastructure: (1) Many say any program must address the unique needs of rural communities, including agriculture research facilities. (2) Hundreds of food and ag groups say it should include a bipartisan approach. (3) The Association of Public and Land-grant Universities emphasize the many improvements needed at schools of agriculture.

Johnson and Johnson Vaccine under Review: The CDC and FDA are reviewing data involving six reported U.S. cases—among 6.8 million doses—of a rare and severe type of blood clot in individuals after receiving the J&J vaccine.
Fourteen University of Missouri students were selected to participate in the 2021 University of Missouri System Undergraduate Research Day.

The University of Nebraska- Lincoln offers podcasts and articles about carbon markets.

Mississippi State University Provost-EVP David Shaw encouraged lawmakers in the U.S. Senate to invest in science research and development.

Check throughout Friday Notes to see more featured articles from member universities.

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CAST welcomes ideas for future publications and projects.

CAST Updates

BCCA Winner Announcement Event May 11

The Borlaug CAST Communication Award (BCCA) is presented annually for outstanding achievement by a scientist, engineer, technologist, or other professional working in the agricultural, environmental, or food sectors for contributing to the advancement of science in the public policy arena. During the past eleven years, this prestigious award has been presented to accomplished, influential scientists and communicators. The announcement for the 2021 BCCA winner will be held May 11. Watch for further details in next week’s Friday Notes editions.


Animal Agriculture and Environmental News

Pigs, Brains, and Research: University of Illinois scientists say the domestic pig is ideal for biomedical research, and in this study they look at how the pig’s early rearing environment affects its brain development.

COVID-19 and Rural America: Nationally, new COVID-19 infections increased by 10% in rural counties—with hotspots focused on Michigan and parts of Texas.

Vaccine Mandates? Several U.S. universities are mandating students get a COVID-19 vaccine before returning to campus. Other schools—such as Iowa State University—will not require vaccines, but they are offering mass vaccination events.

Far Side of the Barn

Kong vs. Godzilla—the Science Angle: Two Dartmouth professors have a nerdy but fun debate about the science behind the battle. Considering anatomy, geography, and intelligence, which monster would win?

Lizard vs. Grocery Shelf (video): A real-life monster—in the form of a monitor lizard—entered a supermarket in Thailand and decided it needed something on the top shelf.

UFO Buzz (video): It might not be surprising that UFO sightings have increased during the pandemic, but these videos (supposedly from the U.S. military) are certainly noteworthy.
Be Prepared: Animal agriculture groups have partnered with U.S. first responders to create a video series that helps farmers and ranchers prepare emergency action plans.

Beefy: Beef and beef cattle prices are experiencing an upward trend as the U.S. economy emerges from a year-long pandemic, according to this Texas A&M specialist.

Poultry Prospects: In this interview, an animal protein expert says the poultry industry should be profitable in 2021 as the pandemic lifts, but producers need to carefully monitor feed supplies and prices.

Cows, Calves, and Artificial Insemination: Many beef producers think the main job of a cow is to annually raise a healthy calf, and these Kansas State University experts offer considerations about artificial insemination in the herd.

Pig Rescue (video): The “Better Piggies Rescue” organization reports an uptick in “shelter pigs” because adopters fail to do their research before adopting a pig.

The USDA-APHIS National Wildlife Research Center works on finding solutions for wildlife management problems related to agriculture, natural resources, property, and human health and safety.

This speaker focused on how innovation in pig nutrition might be helpful for veterinary medicine and the animal’s overall health.

Food Science and Safety News

Food Prices (video): Some think many food staples—like eggs and bread—will cost more compared to a year ago.

Youth Preferences: Food is Gen Z’s top spending priority, according to a survey that looked at various eating trends for young people.

Using the Human Microbiome: Microbiologists are looking at new ways to fight viral infections, including COVID-19, with the bacteria already living in our intestines.

Meat Exports: Red meat exports for February trended below last year’s levels, but the head of the U.S. Meat Export Federation says the 2021 outlook remains strong.

Melon Chain: Texas A&M researchers are using a “table-to-farm” approach to create a safer, healthier, and more sustainable melon supply chain in the United States by considering consumer preferences at the dinner table.

Spam, Spam, Spam (video): This canned meat from Minnesota went from a wartime necessity to a global menu item and Hawaiian delicacy. The word apparently came from mixing the words “spice” and “ham.”

A new FDA plan—Closer to Zero—hopes to reduce exposure to toxic elements in foods for babies and infants. FDA testing indicates that infants are not at immediate risk from the current levels of toxins in food products.

Plant Agriculture and Environmental News

Uncovering the Heat-sensing Gene: Researchers identified a gene that could help plants endure warmer temperatures and have longer growth periods.

Shorter, Stronger Corn: Scientists are using breeding techniques, GMO technology, and gene-editing tactics in an effort to develop shorter-stature corn that can withstand winds as strong as those brought by last summer’s derecho.

Agriculturally Produced Plastic: In the push to grow biodegradable plastic, this company revealed prototype lines of camelina that are genetically engineered to produce PHA.
Scientists in Utah are trying to eradicate invasive weeds while maintaining native plants. Their efforts might even include a pasta machine.

Ag Bill Focuses on Conservation: Farmers and conservationists are praising a bill introduced in the Pennsylvania Senate that would bring funding to stop agricultural runoff from polluting rivers and streams.

River in the Courts: Farmers along the Missouri River won a mass action federal lawsuit against the Army Corps of Engineers for land damages they say are traceable to the agency’s management of the river.

Soybean Move: A major tire company says it will phase out petroleum-derived oils from its products by 2040, using instead sustainable soybean oil as part of a partnership with the United Soybean Board.

Robots are learning to pick fruit, and now University of Florida research says artificial intelligence can tell which strawberries will taste better.

This interview with a North Carolina State University doctoral student known as "Ms. Pineapple" shows the contributions she has made (and will make) to the plant breeding program—especially with pineapples.

This site includes a drought update with 12 states now reporting very dry conditions.

International News

Tea Time: Genome editing may help protect Kenya’s most important cash crop—tea grown in the country’s prime highlands—from the effects of climate change.

Nuclear Issue: The Japanese government says it will start releasing treated radioactive water from the damaged Fukushima nuclear plant into the Pacific Ocean in two years.

Cattle for the Tropics: Scientists are developing cattle that have the milk production capabilities of Holsteins and the heat tolerance of the Gyr breed found in South America.

Pork Imports: To combat rising pork prices and stabilize supplies, the Philippine government will provide more market access for pork imports by lowering tariff rates.

Medical First: A Japanese woman is the world’s first lung transplant from living donors given to a recovered—but lung-damaged—COVID-19 patient.

This rare, powerful "cloud avalanche" occurred at Kapuche Glacier Lake in Nepal.

A volcano eruption on the Caribbean island of St. Vincent is causing a humanitarian emergency.

General Interest News

Should You Tip a Robot? (video): A major pizza company is rolling out a robot delivery service to select customers.

Swarms of Robots: Santosh Pitla—University of Nebraska-Lincoln—envisions swarms of small autonomous robots applying fertilizer, planting seeds, and testing soil. Pitla was the task force chair of the recent CAST Issue Paper called Ground and Aerial Robots for Agricultural Production: Opportunities and Challenges.
Microplastics: Cornell and other university experts explain microplastics—from packaging, soda bottles, and more—that are small enough to "spiral around the globe."

Turbulent Forecast: These researchers at the recent Iowa Water Conference project think the state is in for a challenging mix of super-ragweed, floods, damaged crops, and drought as climate changes occur.

Meteor Sighting: Dashcam footage and security videos show a meteor streaking across the night sky in Florida.

As more robots work in service jobs, the need is growing for people to act as their remote managers—a type of shadow workforce of humans. See related links at upper left.

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